



1/11

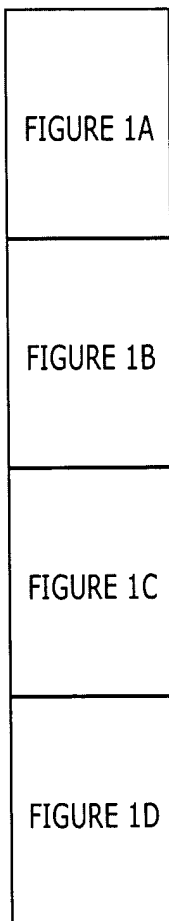


FIGURE 1



2/11

FtsZ-mt2 consensus2 Map.MPD (1 > 1423) Site and Sequence

Page 1

Enzymes: 50 of 502 enzymes (Filtered)

Settings: Circular, Certain Sites Only, Standard Genetic Code

EcoRV  
|  
GATGGCGATATCCCGCATGAAAGCTGCGGCGATGGCGCTGCTACGTGCCCCCAGACCTCCCAGTCCGCCACTCA 75  
CTACCGCTATAGGGCGTACTTTCGACGCCGCTACCGCGACGATGCACGGGCGGTCTGGAGGGTCAGGCGGTGAGT  
Met Ala Ile Ser Arg Met Lys Ala Ala Ala Met Ala Leu Leu Arg Ala Arg Gln Thr Ser Gln Ser Ala Thr Gln  
Pst I  
|  
Pvu II  
|  
Taq I  
|  
ACACCTCGCCTTCTCTACTGAAGCCACTGATGCTGCAGCTGCCGCGTTACGCATGGGCTTTAAAAAGGCTCGAAA 150  
TGTGGAGCGGAAGAGATGACTTCGGTGACTACGACGTCGACGGCGCAATGCGTACCCGAAATTTTCCGAGCTTT  
His Leu Ala Phe Ser Thr Glu Ala Thr Asp Ala Ala Ala Ala Leu Arg Met Gly Phe Lys Lys Ala Arg Lys  
Taq I  
|  
AGACGAGGATGGCGGTGTGAAAGTGGGGCTGGAGGCAGAGCCCGATTACCAACAGATGTGAGCGCCGTTTCGAC 225  
TCTGCTCCTACCGCCACACTTTCACCCCGACCTCCGTCTCGGGCTAAGTGGTTGTCTACACTCGCGGCAAGCTG  
Asp Glu Asp Gly Gly Val Lys Val Gly Leu Glu Ala Glu Pro Asp Ser Pro Thr Asp Val Ser Ala Val Ser Thr  
Sac I  
|  
GCCAGTAGTAGAGAAGAAGCTCGTGCCGCCAGCCATGAGCTCCACACAGCCACTTTGGCTCACACAGGACCATCC 300  
CGGTCATCATCTCTTTCGAGCACGGCGGTGGTACTCGAGGTGTGTCGGTCAAACCGAGTGTGTCTGGTAGG  
Pro Val Val Glu Lys Lys Leu Val Pro Pro Ala Met Ser Ser Thr Gln Pro Leu Trp Leu Thr Gln Asp His Pro  
TGTGACAGACCTGTCTGGGCTTTCGACCGAAGATTGTGGTGGTTGGCGTCGGAGGAGCTGGAGGAAATGCGGTGAA 375  
ACACTGTCTGGACAGCCCGAAACGTGGCTTCTAACACCACCAACCGAGCTCCTCGACCTCCTTTACGCCACTT  
Val Thr Asp Leu Ser Gly Phe Ala Pro Lys Ile Val Val Val Gly Val Gly Gly Ala Gly Gly Asn Ala Val Asn

FIGURE 1A



## FtsZ-mt2 consensus2 Map.MPD (1 &gt; 1423) Site and Sequence

Sau3A      BssH II      Pst I      Bln I

CAACATGATCGCGCGCGCCTGCAGGGTGTGGAGTTTCTTGTTCACACGGATGCTCAGCACTTACGCACGAC 450  
GTTGTACTAGCGCGCGCGGACGTCCACACCTCAAAGAACAACGTTGTGCCTACGAGTCGTGAATGCGTGCTG  
Asn Met Ile Ala Arg Gly Leu Gln Gly Val Glu Phe Leu Val Cys Asn Thr Asp Ala Gln His Leu Arg Thr Thr

GCTGACGGAGAACC GCGTTCAGATGGCTCCTGAATTGACTGGAGGACTGGGCTGTGGCGCTAACCCGAAGTTGG 525  
CGACTGCCTCTTGGCGCAAGTCTACCGAGGACTTAAGTACCTCCTGACCCGACACCGCGATTGGGGCTTCAACC  
Leu Thr Glu Asn Arg Val Gln Met Ala Pro Glu Leu Thr Gly Gly Leu Gly Cys Gly Ala Asn Pro Glu Val Gly

CCGAGAGGGCGGAGAGGCCGCGATTGATGAGATTTTGGAGCGCGTTGAGGGTGCAAACATGATGTTTGTACTGC 600  
GGCTCTCCGCGCTCTCCGGCGCTAACTACTCTAAACCTCGCGCAAGTCCACGTTTGTACTACAAACAATGACG  
Arg Glu Ala Ala Glu Ala Ala Ile Asp Glu Ile Leu Glu Arg Val Gln Gly Ala Asn Met Met Phe Val Thr Ala

Sac I

GGGTATGGGTGGCGGAACAGGTACAGGTGCAGCACCCGTCATTGCTCAGGCTGCCTTAGATGCTGGTATCCTCAC 675  
CCCATACCCACCGCCTTGTCCATGTCCACGTCGTGGGCAGTAACGAGTCCGACGGAATCTACGACCATAGGAGTG  
Gly Met Gly Gly Gly Thr Gly Thr Gly Ala Ala Pro Val Ile Ala Gln Ala Ala Leu Asp Ala Gly Ile Leu Thr

CGTAGCTGTCGTTACTAAGCCGTTCCGGTTTGGGGAACAACCGTGCAAAGCTTGCGGCACAAGGCCTCGCTGA 750  
GCATCGACAGCAATGATTTCGCAAGGCCAACTCCCTTTGTGGCACGTTTCGAACGCCGTGTTCCGGAGCGACT  
Val Ala Val Val Thr Lys Pro Phe Arg Phe Glu Gly Asn Asn Arg Ala Lys Leu Ala Ala Gln Gly Leu Ala Glu

Sac I

ACTGAAGGATAGCGTCGATACGATGCTTGTGATCCCGAACCAAACTTGTCAACATGTCAAATGAGCGCACCTC 825  
TGACTTCCTATCGCAGCTATGCTACGAACACTAGGGCTTGGTTTGAACAAGTTGTACAGTTTACTCGCGTGGAG  
Leu Lys Asp Ser Val Asp Thr Met Leu Val Ile Pro Asn Gln Asn Leu Phe Asn Met Ser Asn Glu Arg Thr Ser

FIGURE 1B



4/11

Page 3

FtsZ-mt2 consensus2 Map.MPD (1 > 1423) Site and Sequence

GTGATGGACGCATTGAGATGGCGGACAATGTGCTTCTGGACGGTGTCAGAACATTCGGATTGATGGTGAT  
CAACTACCTGCGTAAGTCTTACCGCCTGTACACGAAGACCTGCCACAGTTCTTGTAAGCCTAACTACCACTA 900

Leu Met Asp Ala Phe Arg Met Ala Asp Asn Val Leu Leu Asp Gly Val Lys Asn Ile Ser Asp Leu Met Val Met

CGCTGGGCTCATTAACTTGACTTTGCGGATGTTCAATCGGTGATGCAAAATATGGGAAACGCTATGATGGGAAG  
CGGACCCGAGTAATTGGAAGTGAACGCCTACAAGTAGCCAGTACGTTTATACCCCTTGCGATACTACCCCTC 975

Pro Gly Leu Ile Asn Leu Asp Phe Ala Asp Val Gln Ser Val Met Gln Asn Met Gly Asn Ala Met Met Gly Ser

Nal I

TGGAGAGGCGGATGGAGAGAATCGGGCTCTGCGTGCTGCTGAAGATGCATTGGCGAACCCCTCTTCTGGGTGATAT  
ACCTCTCCGGCTACCTCTCTTAGCCCGAGACGCACGACTTCTACGTAACCGCTTGGGAGAAGACCCACTATA 1050

Gly Glu Ala Asp Gly Glu Asn Arg Ala Leu Arg Ala Ala Glu Asp Ala Leu Ala Asn Pro Leu Leu Gly Asp Ile

Taq I

Sau3A I

TTGATTAAGGACGCCAAGGGCATGATCGTTAATATCACGGGAGGCTCCGACCTGACGCTATTGAAAGTTGATGA  
AAGCTAATTCCTGCGGTTCCCGTACTAGCAATTATAGTGCCTCCGAGGCTGGACTGCGATAAACTTCAACTACT 1125

Ser Ile Lys Asp Ala Lys Gly Met Ile Val Asn Ile Thr Gly Gly Ser Asp Leu Thr Leu Phe Glu Val Asp Glu

Bip I

Sau3A I

Taq I

Taq I

GGCTGCTGAGCGTGTGACGCGGGAACCTGATGATCCACAGCCAACATCATCTTCGGTTCGACCTTCGACGACTC  
CCGACGACTCGCACACTGCGCCCTTGAAGTACTAGGTGTGCGGTGTAGTAGAAGCCAAGCTGGAAGCTGTGAG 1200

Ala Ala Glu Arg Val Thr Arg Glu Leu Asp Asp Pro His Ala Asn Ile Ile Phe Gly Ser Thr Phe Asp Asp Ser

Afl III  
Mlu I

GCTGGGCGGCAAGCTACGCTCTCCGTGGTGGCACTGGTATTGCCGACCCGACAAGTTATAGAAGCCGTGATG  
CGACCCCGCGTTCGATGCGCAGAGGCACCAACGGTGACCATAACGGCTGGGGCTGTTCAATATCTTCGGCACTAC 1275

Leu Gly Gly Lys Leu Arg Val Ser Val Val Ala Thr Gly Ile Ala Asp Pro Asp Lys Leu \*

FIGURE 1C

FIGURE 1D



6/11

FIGURE 2A
FIGURE 2B
FIGURE 2C
FIGURE 2D

FIGURE 2



7/11

	Source Organism (organelle)	GenBank Accession No.
SEQ ID NO: 11	<i>Agrobacterium tumefaciens</i>	030992
SEQ ID NO: 12	<i>Sinorhizobium meliloti</i>	P30327
SEQ ID NO: 13	<i>Bartonella clarridgeiae</i>	AAD31718
SEQ ID NO: 14	<i>Rickettsia prowazekii</i>	Q9ZCQ3
SEQ ID NO: 15	<i>Caulobacter crescentus</i>	P52976
SEQ ID NO: 16	<i>Cyanidioschyzon merolae</i> (mt)	BAA85115
SEQ ID NO: 4	<i>Phytophthora infestans</i> -mt2	this invention
SEQ ID NO: 17	<i>Mallomonas splendens</i> (mt)	AAF35432
SEQ ID NO: 2	<i>Phytophthora infestans</i> -mt1	this invention
SEQ ID NO: 18	<i>Gentiana lutea</i> (cp)	T51088
SEQ ID NO: 19	<i>Nicotiana tabacum</i> (cp, 2-1)	T51087
SEQ ID NO: 20	<i>Arabidopsis thaliana</i> (cp, 2-1)	T49028
SEQ ID NO: 21	<i>Physcomitrella patens</i> (cp, 1)	T51089
SEQ ID NO: 22	<i>Physcomitrella patens</i> (cp, 2)	T51090
SEQ ID NO: 23	<i>Guillardia theta</i> (cp)	CAB40398
SEQ ID NO: 24	<i>Mallomonas splendens</i> (cp)	AAF35433
SEQ ID NO: 25	<i>Anabaena</i> PCC7120	CAA83241
SEQ ID NO: 26	<i>Synechocystis</i> PCC6803	P73456
SEQ ID NO: 27	<i>Arabidopsis thaliana</i> (cp, 1-1)	Q42545
SEQ ID NO: 28	<i>Pisum sativum</i> (cp)	T06774
SEQ ID NO: 29	<i>Nicotiana tabacum</i> (cp, 1-3)	CAB89287
SEQ ID NO: 30	<i>Nicotiana tabacum</i> (cp, 1)	CAB41987
SEQ ID NO: 31	<i>Nicotiana tabacum</i> (cp, 1-1)	CAB89286
SEQ ID NO: 32	<i>Nicotiana tabacum</i> (cp, 2)	AAF23770

Bacterial FtsZ 1

50

SEQ ID NO: 11 PRITVFGVGGGGGNAVNMMITVGLQGVDFVAVNTDAQALMT..KADRVIQLGVNVTEGL  
SEQ ID NO: 12 PRITVFGVGGGGGNAVNMMITAGLQGVDFVAVNTDAQALMT..KAERIIQMGVAVTEGL  
SEQ ID NO: 13 PRITVFGVGGGGGNAVNMMINAGLQGVDFVAVNTDAQALAMS..KAERVIQLGAAVTEGL  
SEQ ID NO: 14 PTITVFGVGGAGSNAVNMMIHANLQGANFVAVNTDAQSLEHS..LCINKIQLGVSTTRGL  
SEQ ID NO: 15 PRIVVFGVGGAGGNAVNMMIEAGLEGVEFVAVNTDAQQLQFA..KTDRIQLGVQITQGL

Mitochondrial FtsZ

SEQ ID NO: 16 PRIMVGVGGAGGNAVNMMIASSLPGVEFLVAVNTDAQALKMS..LCPNRIQLGASLTEGL  
SEQ ID NO: 4 PKIVVGVGGAGGNAVNMMIARGLQGVDFVAVNTDAQHLRTT..LTENRVQMAPELTGGL  
SEQ ID NO: 17 PKICVFGVGGGGCNAVNMMIARKLSGVEFVCANTDAQHLSTC..LTENKLQLGKESTQGL  
SEQ ID NO: 2 AS.....QLEGVEFIVANTDCQALGRS..LAPHKITLKGDKITKGL

Chloroplast FtsZ

SEQ ID NO: 18 AKIKVGVGGGGGSAVNRMIESAMKGVFWIVNTDVQAIKMSPVYLENRLQIGQELTRGL  
SEQ ID NO: 19 AKIKVGVGGGGGSAVNRMIESSMKGVFWIVNTDIQAMRMSPVAAEQRLPIGQELTRGL  
SEQ ID NO: 20 ARIKIVGVGGGGGSAVNRMIESEMSGVFWIVNTDIQAMRMSPVLPDNRQLQIGKELTRGL  
SEQ ID NO: 21 AKIKVGVGGGGGSAVNRMIESEMVGVEFWIVNTDAQAMALSPVPAQNRLQIGQKELTRGL  
SEQ ID NO: 22 AKIKVGVGGGGGSAVNRMIESEMVGVEFWIVNTDAQAMALSPVPAQNRLQIGQKELTRGL  
SEQ ID NO: 23 CVIKVGVGGGGGSAVNRMVG.GVEGVFWISINTDAQALSRS..LAPNTCNIGAKLTRGL  
SEQ ID NO: 24 .....GVELVWVNTDAQALSRS..SAKRRLNIGKVLRSGL  
SEQ ID NO: 25 ANIKVGVGGGGGSAVNRMIESDVSGVEFWISINTDAQALTLA..GAPSRQLQIGQKELTRGL  
SEQ ID NO: 26 AKIKVGVGGGGGSAVNRMIASVGTGIDFWAINTDSQALTNT..NAPDCIQIGQKELTRGL  
SEQ ID NO: 27 ARIKIVGVGGGGGSAVNRMISGLQGVDFYAVNTDSQALLQFSA..ENPLQIGELLTRGL  
SEQ ID NO: 28 AKIKVGVGGGGGSAVNRMIGSGLQGVDFYAVNTDAQALLHSAA..ENPIKIGELLTRGL  
SEQ ID NO: 29 AKIKVGVGGGGGSAVNRMIGSGLQGVDFYAVNTDAQALLQSAA..ENPLQIGELLTRGL  
SEQ ID NO: 30 AKIKVGVGGGGGSAVNRMIGSGLQGVDFYAVNTDAQALLQSAA..ENPLQIGELLTRGL  
SEQ ID NO: 31 AKIKVGVGGGGGSAVNRMIGSGLQGVDFYAVNTDAQALLQSTV..ENPIQIGELLTRGL  
SEQ ID NO: 32 AKIKVGVGGGGGSAVNRMIGSGLQGVDFYAVNTDAQALLQSTV..ENPIQIGELLTRGL

FIGURE 2A



8/11

Bacterial FtsZ      60      110

SEQ ID NO: 11 GAGSQPEVGRAAAEECIDEIIDHLNGTHMCFVTAGMGGGTGTGAAPVVAQAARNKGILTV  
SEQ ID NO: 12 GAGSQPEVGRAAAEECIDEIIDHLQGTTHMCFVTAGMGGGTGTGAAPIVAQAARNKGILTV  
SEQ ID NO: 13 GAGALPEVGRAAADECIDEIIDHLADSHMVFITAGMGGGTGTGAAPVVANAAREKGILTV  
SEQ ID NO: 14 GAGASPEVGALAAQESENEIRSSLENSNMVFITAGMGGGTGTGSAPIIARIAKELGILTV  
SEQ ID NO: 15 GAGAHPEVGMSAAEESFEIGEHLDGAHMFVITAGMGGGTGTGAAPIIAKCARERGILTV

Mitochondrial FtsZ

SEQ ID NO: 16 GAGARPDIGRAAAEEAYETLKREFRGVHLLFVTAGMGGGTGTGAAPIIARAAAELGCLTV  
SEQ ID NO: 4 GCGANPEVGREAAEAAIDEILERVQGANMMFVTAGMGGGTGTGAAPVIAQAALDAGILTV  
SEQ ID NO: 17 GCGANPESGRRAAEEESKEEIIARYIADANMFVITAGMGGGTGTGAAPVVAEVCMEKDILTV  
SEQ ID NO: 2 GAGSKPELGKRSAAEQQKVDIQRMLQDSNMLFITGGMGGGTCTGAAPVVASVARELGILTV

Chloroplast FtsZ

SEQ ID NO: 18 GAGGNPDIGMNAAKESKEAIEEAVYGADMVFVTAGMGGGTGTGGAPVIAGIAKSMGILTV  
SEQ ID NO: 19 GAGGNPDIGMNAANESKQAEIEEAVYGADMVFVTAGMGGGTGTGAAPIIAGTAKSMGILTV  
SEQ ID NO: 20 GAGGNPEIGMNAARESKEVIEEALYSDMVFTAGMGGGTGTGAAPVIAGIAKAMGILTV  
SEQ ID NO: 21 GAGGNPEIGCSAAEESKAMVEEALRGADMVFVTAGMGGGTGSGAAPIIAGVAKQLGILTV  
SEQ ID NO: 22 GAGGNPEIGCSAAEESKAMVEEALRGADMVFVTAGMGGGTGSGAAPIIAGVAKQLGILTV  
SEQ ID NO: 23 GAGGNPEIGRKAEEESRDLIAEAVSAGDLVFVTAGMGGGTGSGAAPIVAEVAKEMGCLTV  
SEQ ID NO: 24 GAGGNPAIGAKAAEESREEIMAVVKNADLVFVTAGMGGGTGSGAAPVVAECAKEAGALTV  
SEQ ID NO: 25 GAGGNPAIGQKAAEESRDEIATALEGADLVFITAGMGGGTGTGAAPIVAEVAKEMGALTV  
SEQ ID NO: 26 GAGGNPAIGQKAAEESRDEIARSLEGLDLVFITAGMGGGTGTGAAPIVAEVAKEMGCLTV  
SEQ ID NO: 27 GTGGNPLLGEQAAEESKDAIANALKGSDLVFITAGMGGGTGSGAAPVVAQISKDAGYLT  
SEQ ID NO: 28 GTGGNPLLGEQAAEESKEAIANALKGSDLVFITAGMGGGTGSGAAPVVAQISKEAGYLT  
SEQ ID NO: 29 GTGGNPLLGEQAAEESKEAIANSLKGS DMVFITAGMGGGTGSGAAPVVAQIAKEAGYLT  
SEQ ID NO: 30 GTGGNPLLGEQAAEESKEAIANSLKGS DMVFITAGMGGGTGSGAAPVVAQIAKEAGYLT  
SEQ ID NO: 31 GTGGNPLLGEQAAEESKEHIANALKGS DMVFITAGMGGGTGSGAAPVVAQIAKEAGYLT  
SEQ ID NO: 32 GTGGNPLLGEQAAEESKEHIANALKGS DMVFITAGMGGGTGSGAAPVVAQIAKEAGYLT

Bacterial FtsZ      120      170

SEQ ID NO: 11 GVVTKPFHFEGGRMRMLAEQGIIEELQKSVDTLIVIPNQNLFRANDKTTFADAFAMADQV  
SEQ ID NO: 12 GVVTKPFHFEGGRMRMADIQGISDLQKSVDTLIVIPNQNLFRANDKTTFADAFAMADQV  
SEQ ID NO: 13 GVVTKPFQFEGARRMKTAEAGIEELQKSVDTLIVIPNQNLFRANEKTTFSDAFAMADQV  
SEQ ID NO: 14 GVVTKPFHFEGGHRMKTADKGLIELQQFVDTLIVIPNQNLFRANEQTTFADAFKMAADDV  
SEQ ID NO: 15 GVVTKPFHFEGRHRMRLADSGIQELQRYVDTLIVIPNQNLFRVANERTTFAEAFGMADQV

Mitochondrial FtsZ

SEQ ID NO: 16 AVVTKPFHFEGMIRMKTAEQGIIVELTEHVDTMLVIPNQNLFKVASPRTSFLDAFRLADHV  
SEQ ID NO: 4 AVVTKPFRFEGNNRAKLAAQGLAELKDSVDTMLVIPNQNLFNMSNERTSLMDAFRMADNV  
SEQ ID NO: 17 AVVTKPFSFEGKHRARLANEGIRSLEDVRDVLIIIPNQNLFKLINASTSMADAFGLADDI  
SEQ ID NO: 2 GVVSTPFRSEGNRTRLANAGVKELAKYVDTLIVVPNQNLALADKSTTMLEAFRYADDV

Chloroplast FtsZ

SEQ ID NO: 18 GIVTTPFSFEGRRRAVQAQEGIAALRDNDVTLIVIPNDKLLTAVSPSTPVTEAFNLADDI  
SEQ ID NO: 19 GIVTTPFSFEGRRRAVQAQEGIAALRENDVTLIVIPNDKLLTAVSPSTPVTEAFNLADDI  
SEQ ID NO: 20 GIATTPFSFEGRRRTVQAQEGLASLRDNDVTLIVIPNDKLLTAVSQSTPVTEAFNLADDI  
SEQ ID NO: 21 GIVTTPFAFEGRRRAVQAHEGIAALKNNVDTLITIPNNKLLTAVAQSTPVTEAFNLADDI  
SEQ ID NO: 22 GIVTTPFAFEGRRRSVQAHEGIAALKNNVDTLITIPNNKLLTAVAQSTPVTEAFNLADDI  
SEQ ID NO: 23 GVVTKPFAFEGKRRMQQANDAILNLRNKVDTLIVVSNKLLQIVPDNTPLQDAFSVADDI  
SEQ ID NO: 24 GVVTKPFGFEGKRRMQQARNAILKMDKVDTLIVVSNKLLKIVPDNTPLTEAFVLADDI  
SEQ ID NO: 25 GVVTRPFVFEGRRRTSQAEQIEGLKSRVDTLIIIPNNKLLLEVIPEQTPVQEAFRYADDV  
SEQ ID NO: 26 GIVTRPFTFEGRRRAKQAEEGINALQSRVDTLIVIPNNQLLSVIPAEQTPVQEAFRYADDI  
SEQ ID NO: 27 GVVTPPFSFEGKRSLQALEAIEKLQKNVDTLIVIPNDRLLDIADEQTPVQDAFLLADDV  
SEQ ID NO: 28 GVVTPPFSFEGKRSLQALEAIEKLQKNVDTLIVIPNDRLLDIADEQTPVQDAFLLADDV  
SEQ ID NO: 29 GVVTPPFSFEGKRSLQALEAIEKLQKNVDTLIVIPNDRLLDIADEQTPVQDAFLLADDV  
SEQ ID NO: 30 GVVTPPFSFEGKRSLQALEAIEKLQKNVDTLIVIPNDRLLDIADEQTPVQDAFLLADDV  
SEQ ID NO: 31 GVVTPPFSFEGKRSLQALEAIEKLQKNVDTLIVIPNDRLLDIADEQTPVQDAFLLADDV  
SEQ ID NO: 32 GVVTPPFSFEGKRSLQALEAIEKLQKNVDTLIVIPNDRLLDIADEQTPVQDAFLLADDV

FIGURE 2B





9/11

Bacterial FtsZ 180 230

SEQ ID NO: 11 LYSGVACITDLMVKEGLINLDFADVRSVMREMARPMGMTGE...ASGPARAMQAAEAAI  
SEQ ID NO: 12 LYSGVACITDLMVKEGLINLDFADVRSVMREMGRAMMTGE...ASGEGRAMAAEAAI  
SEQ ID NO: 13 LYSGVASITDLMIKEGLINLDFADVRSVMHEMGRAMMTGE...ASGDGRALAAEAAI  
SEQ ID NO: 14 LHAGVRGVTDLMIMPGLINLDFADIKAVMSEMKGAMMTGE...DSGEDRAIKAAESAI  
SEQ ID NO: 15 LHSGVRSITDLMVLPGLINLDFADVRTVMTEMKGAMMTGE...GTAEDRALMAAQNAI

Mitochondrial FtsZ

SEQ ID NO: 16 LYSGVRSITDLMTPVPLINLDFADVRSVVREMGRAMMGSSEVEMEAGNEERAIRASEAAI  
SEQ ID NO: 4 LLDGVKNISDLMVMPGLINLDFADVQSVMQNMGNAMMGSGEAD...GENRALRAAEDAL  
SEQ ID NO: 17 LLAGVKSITDLMVRPGLINLDFADVRTVMSCMGHAIMGTGQAE...GEDRAIRAANDAL  
SEQ ID NO: 2 LLEGVKGVTDLIVRPGLINL.....

Chloroplast FtsZ

SEQ ID NO: 18 LRQGVRGISDIITIPGLVNVDFADVRAIMANAGSSLMGIGT...ATGKTRARDAALNAI  
SEQ ID NO: 19 LRQGVRGISDIITIPGLVNVDFADVRAIMANAGSSLMGIGT...ATGKTRARDAALNAI  
SEQ ID NO: 20 LRQGVRGISDIITIPGLVNVDFADVRAIMANAGSSLMGIGT...ATGKSRARDAALNAI  
SEQ ID NO: 21 LRQGVRGISDIITIPGLVNVDFADVRAIMANAGSSLMGIGT...ATGKSRAREAAISAI  
SEQ ID NO: 22 LRQGVRGISDIITIPGLVNVDFADVRAIMANAGSSLMGIGT...ATGKSKAREAAISAI  
SEQ ID NO: 23 LRQGVVGISEIIVRPGLINLDFADVRSVMADAGSALMGIGT...GSGKTRAQDAAVAAI  
SEQ ID NO: 24 LRQGVVGITEIIVKPLVNVDFADVRTIMGNAGTALMGIGH...GKGNRAKDAALSAI  
SEQ ID NO: 25 LRQGVQGISDIITIPGLVNVDFADVRAVMADAGSALMGIGV...SSGKSAREAAIAAI  
SEQ ID NO: 26 LRQGVQGISDIITIPGLVNVDFADVRAVMADAGSALMGIGV...GSGKSRAKEAATAAI  
SEQ ID NO: 27 LRQGVQGISDIITIPGLVNVDFADVKAVMKDSGTAMLGVGV...SSSKNRAEEAAEQAT  
SEQ ID NO: 28 LRQGVQGISDIITIPGLVNVDFADVKAVMKDSGTAMLGVGV...SSSKNRAEEAAEQAT  
SEQ ID NO: 29 LRQGVQGISDIITIPGLVNVDFADVKAVMKDSGTAMLGVGV...SSSKNRAEEAAEQAT  
SEQ ID NO: 30 LRQGVQGISDIITIPGLVNVDFADVKAVMKDSGTAMLGVGV...SSSKNRAEEAAEQAT  
SEQ ID NO: 31 LCQGVQGISDIITIPGLVNVDFADVKAIMKDSGTAMLGVGV...SSSRNRAEEAAEQAT  
SEQ ID NO: 32 LCQGVQGISDIITIPGLVNVDFADVKAIMKDSGTAMLGVGV...SSSRNRAEEAAEQAT

Bacterial FtsZ 240 290

SEQ ID NO: 11 ANPLLD.ETSMKGAQGLLISITGGRDLTLFEVDEAATRIREEVDP.DANIILGATFDEAL  
SEQ ID NO: 12 ANPLLD.ETSMKGAQGLLISITGGRDLTLFEVDEAATRIREEVDP.DANIILGATFDEEL  
SEQ ID NO: 13 ANPLLD.DTSMRGARGLLISITGGRDMTLFEVDEAANRIREEVDA.DANVIFGAIDDESL  
SEQ ID NO: 14 SNPLLD.HSSMCGARGVLINITGGPDMTLFEVDNAANRIREEVDNIDANIIFGSTFNPEL  
SEQ ID NO: 15 ANPLLD.EVSLKGAKAVLVNVTGGMDMTLFEVDEAANAISDQVDP.EANIIFGAADFPSL

Mitochondrial FtsZ

SEQ ID NO: 16 CNPLLD.ETSLRGARGVLVNITGGTDMTLFEIDAAANRIREQVDP.DANIIFGSAFDASM  
SEQ ID NO: 4 ANPLLG.DISIKDAKGMIVNITGGSDDLTLFEVDEAAERVTRERLDDPHANIIFGSTFDDSL  
SEQ ID NO: 17 NNPLLGDFSRSKAGMLVNITGGKDLTLFEVDAAAQRITSEIEDEDANVIFGSSFDPSL  
SEQ ID NO: 2 .....

Chloroplast FtsZ

SEQ ID NO: 18 QSPLLD..IGIERATGIVWNITGGSDDLTLFEVNAAAEEVIYDLVDP.SANLIFGAVVDPSP  
SEQ ID NO: 19 QSPLLD..IGIERATGIVWNITGGSDDLTLFEVNAAAEEVIYDLVDP.SANLIFGAVIDPSI  
SEQ ID NO: 20 QSPLLD..IGIERATGIVWNITGGSDDLTLFEVNAAAEEVIYDLVDP.TANLIFGAVVDPAL  
SEQ ID NO: 21 QSPLLD..VGIERATGIVWNITGGSDDLTLFEVNAAAEEVIYDLVDP.NANLIFGAVVDEAL  
SEQ ID NO: 22 QSPLLD..VGIERATGIVWNITGGSDDLTLFEVNAAAEEVIYDLVDP.NANLIFGAVVDEAL  
SEQ ID NO: 23 SSPLLD..FPIEKARGIVFNITGGQDMTLHEINSAAEVIYEAVDS.NANIIFGALVDDNM  
SEQ ID NO: 24 SSPLLD..FPIITRAKGIVFNIVGGSMSLQEIINAAAEEVIYENVVQ.DANIIFGAMVDDKM  
SEQ ID NO: 25 SSPLLE..CSIEGARGVFNITGGSDDLTLHEVNAAAETIYEVVDP.NANIIFGAVIDDRL  
SEQ ID NO: 26 SSPLLE..SSIQAGKGVFNITGGTDLTLHEVNVAEEIYEVVDA.DANIIFGAVIDDRL  
SEQ ID NO: 27 LAPLIG..SSIQSATGVVYNITGGKDITLQEVNRVSQVVTSLADP.SANIIFGAVVDDRY  
SEQ ID NO: 28 LAPLIG..SSIQSATGVVYNITGGKDITLQEVNRVSQVVTSLADP.SANIIFGAVVDDRY  
SEQ ID NO: 29 LAPLIG..SSIQSATGVVYNITGGKDITLQEVNRVSQVVTSLADP.SANIIFGAVVDERY  
SEQ ID NO: 30 LAPLIG..SSIQSATGVVYNITGGKDITLQEVNRVSQVVTSLADP.SANIIFGAVVDERY  
SEQ ID NO: 31 LAPLIG..LSIQSATGVVYNITGGKDITLQEVNKSQVVTSLADP.SANIIFGAVVDERY  
SEQ ID NO: 32 LAPLIG..SSIQSATGDVYNITGGKDITLQEVNKSQVVTSLADP.SANIIFGAVVDERY

FIGURE 2C



10/11

Bacterial FtsZ 300  
SEQ ID NO: 11 E.GLIRSVVATGI  
SEQ ID NO: 12 E.GLIRSVVATGI  
SEQ ID NO: 13 E.GVIRSVVATGI  
SEQ ID NO: 14 K.GIIRSVVATGI  
SEQ ID NO: 15 E.GVIRSVVATGM  
Mitochondrial FtsZ  
SEQ ID NO: 16 Q.GRLRVSVLATGI  
SEQ ID NO: 4 G.GKLRVSVVATGI  
SEQ ID NO: 17 Q.GSIRSVIVATGI  
SEQ ID NO: 2 .....  
Chloroplast FtsZ  
SEQ ID NO: 18 C.GQVSITLIATGF  
SEQ ID NO: 19 S.GQVSITLIATGF  
SEQ ID NO: 20 S.GQVSITLIATGF  
SEQ ID NO: 21 H.GQVSITLIATGF  
SEQ ID NO: 22 H.DQISITLIATGF  
SEQ ID NO: 23 EN.EISITVVATGF  
SEQ ID NO: 24 TSGEVSITVLATGF  
SEQ ID NO: 25 Q.GEVKITVIATGF  
SEQ ID NO: 26 Q.GEMKITVIATGF  
SEQ ID NO: 27 .TGEIHVTIIATGF  
SEQ ID NO: 28 .TGEIHVTIIATGF  
SEQ ID NO: 29 .NGEIHVTIIATGF  
SEQ ID NO: 30 .NGEIHVTIIATGF  
SEQ ID NO: 31 .NGEIQVTIIATGF  
SEQ ID NO: 32 .NGEIQVTIIATGF

FIGURE 2D



FIGURE 3

